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ABSTRACT

The Service-Learning Center (SLC) at Virginia Tech has developed a home page that has been cited in national publications and serves as a virtual center for linking more than 1,000 students across the university with the information and resources they need to fulfill course-based service-learning components. The home page was developed with the original intent of providing information on service-learning programs. It quickly evolved to include a rudimentary online application for service-learning students, descriptions of more than 80 different service projects, and samples of forms that students and faculty could use during their service-learning experience. Since the development of the home page, issues have been raised concerning how best to meet the needs of the end-users of the pages. While technology has enabled this small office to work with increasingly large numbers of students each semester, it may have reduced opportunities for conversation, reflection, and feedback on student service. This paper describes the various elements that have played a role in the development of the SLC's "virtual placement" process and examines the human issues associated with each. Highlights include: conceptualization; online applications; linking students with project descriptions; new developments-online training and reflection; and future developments. (AEF)

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Virtual Placement and Other Tools For Facilitating Service-Learning Placement, Training, and Reflection Campus-Wide

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http://www.majbill.vt.edu/sl/index.html

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The Service-Learning Center (SLC) at Virginia Tech has developed a home page that has been cited in national publications and serves as a virtual center for linking more than 1,000 students across the university with the information and resources they need to fulfill course-based service-learning components. The home page was developed with the original intent of providing information on service-learning programs. It quickly evolved to include a rudimentary on-line application for service-learning students, descriptions of more than 80 different service projects, and samples of forms that students and faculty could use during their service-learning experience. Since the development of the home page, issues have been raised concerning how best to meet the needs of the end-users of the pages. While technology has enabled this small office to work with increasingly large numbers of students each semester, it may have reduced opportunities for conversation, reflection, and feedback on student service. This paper will describe the various elements that have played a role in the development the SLC's "virtual placement" process and will examine the human issues associated with each.

Conceptualization

Every web site begins with a single page. There are several issues to consider in developing this initial page:

1. Who will compose / maintain the page?
2. What content will be included?
3. Where will the page be "hosted"?
4. What audiences will be accessing the page?

From the beginning, the SLC web page was a team effort. The SLC director was instrumental in determining the page content; a faculty member, working as a volunteer,

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wrote the early pages; and the SLC placement coordinator worked with the volunteer to learn Hypertext Markup Language (HTML) so that she could maintain the pages. As the pages were written and revised, it became clear that one person should serve as the webmaster to avoid the confusion of multiple authors working with different versions of different documents. The placement coordinator, working in cooperation with other staff and volunteers, became the unofficial webmaster for the SLC home page.

One of the SLC's initial tasks was to decide what information was important to include on the web site about our program. The staff was consulted to determine what programs should be included and what links would be needed. The page began with a history and mission of the center, included information on model programs, and reproduced several student forms. The SLC office address, telephone number, and e-mail address (which included a hypertext link so that users could send e-mail to the Service-Learning Center) were also included on the page.

A search of other university service-learning center web pages found through Robin Crews' "Home of Service-Learning on the World-Wide Web" <http://csf.colorado.edu/sl>, which is hosted by Communications for a Sustainable Future (CSF), reveals that the above elements are common to most service-learning web pages. Some programs, such as those of the University of Louisville and Miami-Dade Community College, also offer listings of possible service placements and information about each service project. The "Guide to Programs, Course Lists & Syllabi" on the site also reports whether or not the page has on-line course listings or on-line syllabi.

From the start, it was important for the SLC to develop a close working relationship with the departmental server administrator. This individual oversaw the server, the computer on which were stored all departmental web pages in the building. She also had expertise in writing web pages and solving common problems. It was an advantage that the administrator's office was next door to the SLC offices. As is common on many campuses, the server and server administrator were responsible to many different academic departments, so it was important to negotiate ready access to our pages. As SLC staff became more proficient, we became less dependent on our server administrator, and she appreciated the new techniques we were able to learn and incorporate into our web pages.

In designing the SLC web page, it was important to consider the various end-users who would be accessing information on-line. These included Virginia Tech students, faculty,

and administrators, as well as community members. While many faculty have access to the campus's high-speed Ethernet service, students are often dialing in from off-campus using lower speed telephone lines, modems of varying speeds and computers of differing ages and capabilities. We experienced a "reality check" when a community agency reported that the SLC web page took five minutes to load. While it is tempting to incorporate lots of graphics in designing a web page, this can be discouraging to a user who is dialing in through a modem pool. For this reason, we created both text and graphic-intensive versions of the web page.

On-line Applications

The "virtual placement" process began in earnest when a volunteer offered to develop an on-line application procedure for students interested in service-learning courses and placements. One of our first tasks was to survey service-learning course instructors to determine whether or not they felt that they could require their students to apply on-line. Most of the respondents indicated that they would like to offer the option of having their students apply using paper forms for the benefit of those students who were not comfortable filling out an on-line application. Our original on-line application form was developed using an HTML editor with forms capability. However, we soon learned that there are two parts to incorporating a web-based form: (a) writing the form and (b) receiving the form. The original form looked fine on the screen and contained boxes for students to complete and a "Submit" button on which they clicked to send the information. Unfortunately, the form arrived electronically at the Center as an unformatted e-mail, and it was left to a staff member to re-format the e-mail so that it could be read. Additionally, the e-mail form had to be manually entered into the SLC student database. Clearly, this was an unworkable system. While it allowed students to apply from remote locations, it required more work on the part of staff to decipher and then reenter the information before acting on the student application.

The volunteer looked into several databases and programs that could work together and allow the student form to post directly to a database. The technical term for the program that receives the form is Common Gateway Interface (CGI). The CGI resides on the server and enables the incoming application to be stored as a database or other file. There are several such programs on the market. The SLC staff decided upon a program that appeared to do everything we needed. However, after the program was purchased, neither our staff,

our web page volunteer, nor the server administrator could figure out how to use the program. The program required the writing of several extra pages that operated in the background, each performing part of the function of posting the application. These extra pages consisted of the original application form, the error message; the confirmation message; and the page that allows an individual to search and/or revise the submitted application. This created a level of complexity that was too time intensive for our staff to work with.

While we were involved in the development of the on-line application, we were also receiving student applications, and this allowed us to observe how the form was being utilized by our end-users. Fewer than 20 students applied on-line during the inaugural semester, which was fortunate, as the staff had to enter these students' applications manually. We had greater numbers of applicants in the second semester, but we began to experience technological limitations when the server crashed (another interesting feature of the program we purchased was that it caused our departmental server to crash several times). We found that although we had added a level of convenience for the student-applicants, they had very little tolerance for server errors and this increased their frustration with the on-line application procedure.

A workable solution was found using the database we purchased and CGI software that was already running on the departmental server. To develop this new procedure, we had to allocate some extra funds toward hiring a graduate student in instructional technology Because the student had three years of experience in working with web-database applications, he was able to quickly produce a working application for us. Fortunately, this application was possible to duplicate, and we were able to modify the database on our own to produce new database forms for some of our other web pages. During the third semester, 78% of students applied on-line. We still had the problem of server crashes, but these were less frequent. Faculty, with their increasing experience in web page programming, were more tolerant of these limitations of the technology. During the spring semester, 314 students applied on-line, which represented 81% of all student applicants.

Having student applications in a database enabled quicker review of applications. They could be sorted by site, and we could review the students as a group to determine what each student had to offer to a potential service site. The database was also modified to include additional information to determine if students had attended training, been notified

of their service assignment, and completed a service-learning agreement or a midpoint interview. It was also possible to have the database generate mass e-mail to students regarding their service projects and to post student service assignments on line.

Linking Students with Project Descriptions

The on-line database has certainly enabled quicker and more efficient review of student applications. It has also resulted in greater efficiency in posting service-project descriptions. Each semester, the SLC works with an average of 30 academic courses. Each of these courses has a different set of service options from which students taking the course may choose, and there are more than 80 different service projects. When we first began our web site, a separate web page was written for each different project. Each semester, new pages had to be written. Another problem was that this information had to be produced in different forms–an HTML format that could be viewed on-line; a hard copy that could be put in a notebook for students to read; and a short project description, which could be handed out at the beginning of the semester. Each of these formats required additional staff time.

The development of the on-line site database creates timesavings for staff, and the information is easily updated from semester to semester. The students enter a barrier web page in which they are asked to select the course in which they are enrolled and then click on a button labeled "See projects for this course." A listing of projects results. Students can click on each link to obtain comprehensive information about the projects available to their course. The database can serve each project description, but it can also print out hard copies for a notebook or short descriptions for a class. It can be searched or sorted and can be linked to the student database to produce a spreadsheet of students and sites.

Several factors have been of critical importance in the development of the "virtual placement" process. First, we were able to draw upon knowledgeable technical support from doctoral and master's level students in the Virginia Tech Instructional Technology graduate program. In several cases, paid positions were created to access this expertise. It was also important to train staff in the use of the new technology. More work in this area remains, but as writing and developing web-based applications becomes easier, the training process will also be simplified.

New Developments: On-line Training and Reflection

During the most recent academic year, new features have been included on the web page. All service-learning students are required to attend a one-hour orientation session in which they receive information about what is expected of them and what support services are offered to facilitate their service experience. The orientation also covers information about risk management and liability. Much of this orientation is presented using Microsoft PowerPoint presentation software. Again, with the capable assistance of a paid instructional technology graduate student, the SLC was able to convert this presentation into an Adobe Acrobat PDF (Portable Document Format) file that can be viewed on-line. There are several issues that remain to be resolved about this on-line presentation. First, not all web browsers support Adobe Acrobat, or if they do, the user must download the software to view the application. To address this, a message was posted with a link to the Adobe web page so students could download the software. The second issue was how to verify that students had in fact viewed the presentation. This was a trickier issue because it involved creating a "sign-in" / "sign-out" procedure. Again, using an on-line database, we were able to create a sign-out form that would appear only after the student had viewed the entire presentation. The sign-out page includes questions about the presentation so that the student can demonstrate knowledge gained.

The SLC does not consider having the student orientation on-line as the best way to provide training to students, nor do we have as a goal that one day all students will receive orientation on-line. The on-line orientation is offered because of the problem of coordinating student schedules for a group meeting. Many students are unable to attend any of our regularly scheduled orientation sessions. Unfortunately, students viewing the on-line presentation do not have the ability to ask questions and have them answered on the spot. They cannot benefit from other students' questions or discussion. Another part of the group orientation that is missing from the on-line orientation is "live" student testimonials. Providing an opportunity for new students to listen to the actual experiences of former service-learning students has been one of the most popular elements of the orientation. This could be done on-line, but would require the use of a multimedia film clip or perhaps a scheduled chat. Again, because of the difficulty in coordinating student schedules, a scheduled chat would not meet the orientation needs of all students.

One of the key results of the extensive program evaluation conducted by the SLC is our belief in the need for student reflection forums. The ideal form of reflection happens in

class within the learning environment. However, each course instructor handles reflection differently, leading to a variety of different student experiences. In the past, the SLC has sponsored group reflection sessions. However, attendance is highly variable and there are problems with scheduling. During the spring 1998 semester, a student-led chat was initiated. Like the on-line application, this chat was underutilized during its first semester, so we need to consider ways to engage students in on-line discussion

Conclusion and Future Developments

Among the key advantages of using Internet technology are its accessibility to students and others; lack of time dependence; speed of communication; and its ability to handle large numbers of "hits" or requests for information. The disadvantages range from minor server crashes to issues of different student comfort levels with the technology and hardware access. As mentioned earlier, the number of students accessing the SLC web page has increased each semester that it has been operational. Students can submit applications at any time of day or night from their homes or from computer labs. The "virtual placement" process offers options to students with difficult schedules who are unable to participate in orientation or scheduled reflection sessions. And having student information posted directly to a database makes it easy to sort and review according to schedule or reported interests.

Students approach technology from a variety of backgrounds, experience levels, and hardware capability. The SLC has continued to develop new web-based applications to meet student needs. But, as noted earlier, the on-line training and reflection forums lack the element of human interaction and the opportunity to benefit from and respond to the experiences of others. Student-led reflection has the potential to enable such interaction, but this has been underutilized at the SLC. As was true with the student application process, it may take from two to three semesters for us to realize the advantages of this innovation.

As the SLC continues to expand and update its "virtual placement" procedures, we have been able to realize the benefits of technology as a tool for reaching an increasingly expanding population of service-learning students. Technology has extended the capabilities of our staff in addressing the needs of students, faculty and service sites. However, it cannot serve to replace human contact and advice on matters of service. Therefore, work remains to be done in creating and promoting interactive forums for service-learning participants to communicate with each other.

About the Author

Marcy H. Schnitzer is the assistant director at Virginia Tech's Service-Learning Center. She has a master's degree in human resource management and labor relations and a bachelor's in biology from Virginia Tech. Prior to her appointment as placement coordinator, Schnitzer was the executive director of the Voluntary Action Center of Montgomery County and a founding member of the Virginia Tech Service-Learning Advisory Board. Schnitzer also was a founding member of the Blue Ridge Association for Volunteer Administration and serves on numerous community agency boards including the Montgomery County Office on Youth, Montgomery County Improvement Council, Montgomery County Human Services Commission, Montgomery County Christmas Store Eligibility Committee, and the Community Service Coalition. She has also served on a statewide Work Group for Community Based Service-Learning.